

MAKING A DIFFERENCE

**Solid Waste Planning
And Recycling Workshop
June 13-14, 2013**



To Protect and Enhance Kentucky's Environment

Kentucky
UNBRIDLED SPIRIT™

Solid Waste Disposal Sites

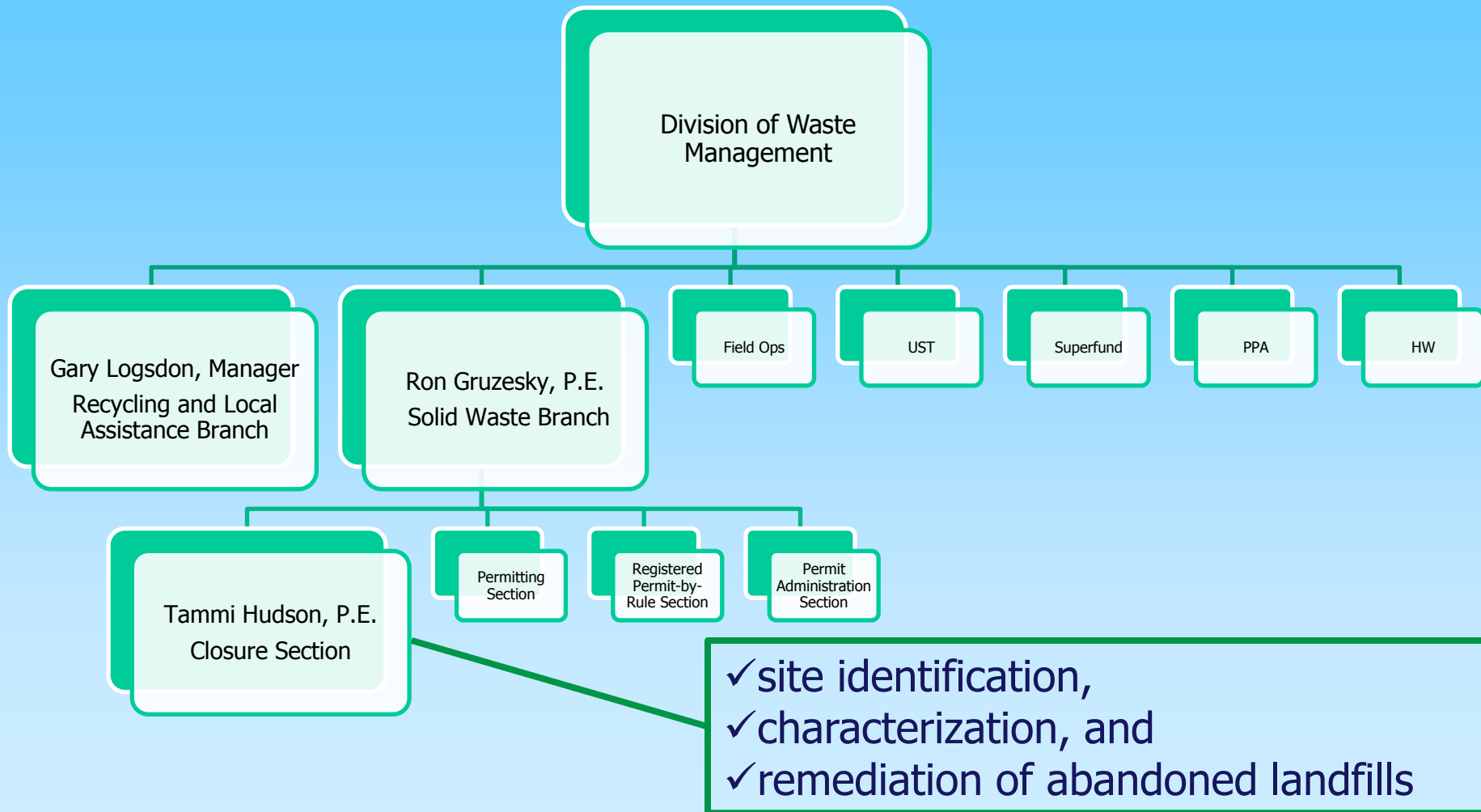
- **Illegal open dumps**
 - Do not have permits for waste disposal
 - Commonly used as neighborhood dump or road-side dump
- **Abandoned landfills**
 - Held permit from Health Department or state agency
 - Recognized as landfill by community during operation
 - Ceased accepting waste before July 1, 1992
- **Active landfills**
 - Hold permit from Department for Environmental Protection
 - Design and operations comply with current laws



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First Step - Identify

- Landfill or dump



How Many Abandoned Landfills? ~ 630

Adair	4	Carroll	7	Grant	3	Knox	4	McLean	8	Robertson	2
Allen	4	Carter	4	Graves	7	Larue	2	Meade	2	Rockcastle	6
Anderson	1	Casey	4	Grayson	3	Laurel	3	Menifee	1	Rowan	4
Ballard	4	Christian	9	Green	2	Lawrence	3	Mercer	3	Russell	5
Barren	1	Clark	9	Greenup	11	Lee	3	Metcalfe	12	Scott	8
Bath	1	Clay	7	Hancock	2	Leslie	4	Monroe	1	Shelby	2
Bell	3	Clinton	1	Hardin	4	Letcher	8	Montgomery	4	Simpson	4
Boone	4	Crittenden	2	Harlan	10	Lewis	5	Morgan	3	Spencer	1
Bourbon	5	Cumberland	3	Harrison	3	Lincoln	3	Muhlenberg	10	Taylor	1
Boyd	12	Daviess	6	Hart	4	Livingston	3	Nelson	2	Todd	1
Boyle	6	Edmonson	4	Henderson	2	Logan	7	Nicholas	4	Trigg	4
Bracken	4	Elliott	1	Henry	3	Lyon	1	Ohio	3	Trimble	1
Breathitt	3	Estill	2	Hickman	6	Madison	6	Oldham	5	Union	4
Breckinridge	7	Fayette	8	Hopkins	12	Magoffin	22	Owen	7	Warren	9
Bullitt	4	Fleming	5	Jackson	3	Marion	2	Owsley	1	Washington	3
Butler	4	Floyd	14	Jefferson	19	Marshall	5	Pendleton	1	Wayne	4
Caldwell	4	Franklin	5	Jessamine	3	Martin	4	Perry	7	Webster	6
Calloway	4	Fulton	7	Johnson	7	Mason	4	Pike	13	Whitley	8
Campbell	7	Gallatin	1	Kenton	12	McCracken	11	Powell	4	Wolfe	5
Carlisle	3	Garrard	3	Knott	6	McCreary	8	Pulaski	7	Woodford	3



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Second Step - Characterize

- Look for receptors
- Identify risks

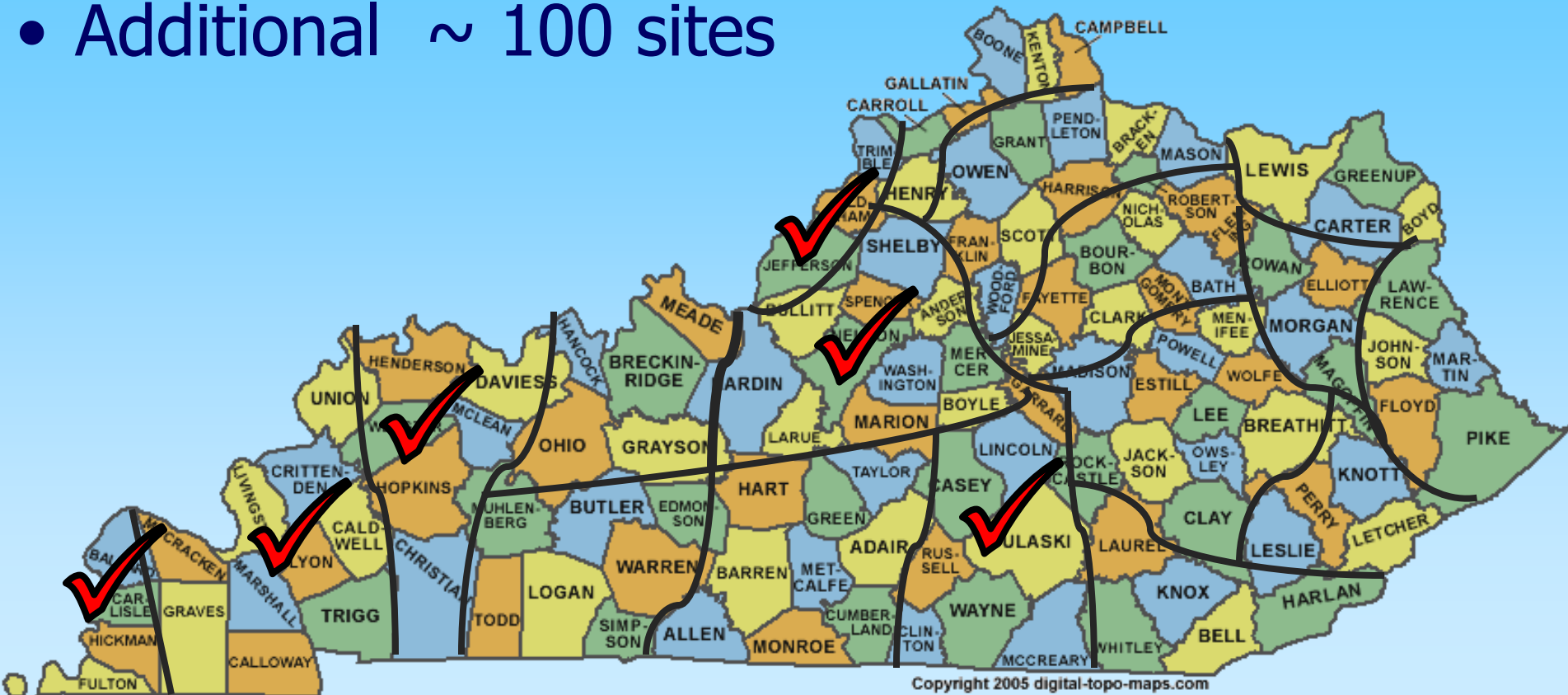


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>270 Abandoned Landfills Characterized

- 6 of 18 areas completed
- Additional ~ 100 sites



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Third Step - Close

- Consolidate waste
- Improve cap or construct alternate cap
- Install drainage system
- Construct wetlands for leachate treatment
- Install force mains or leachate disposal



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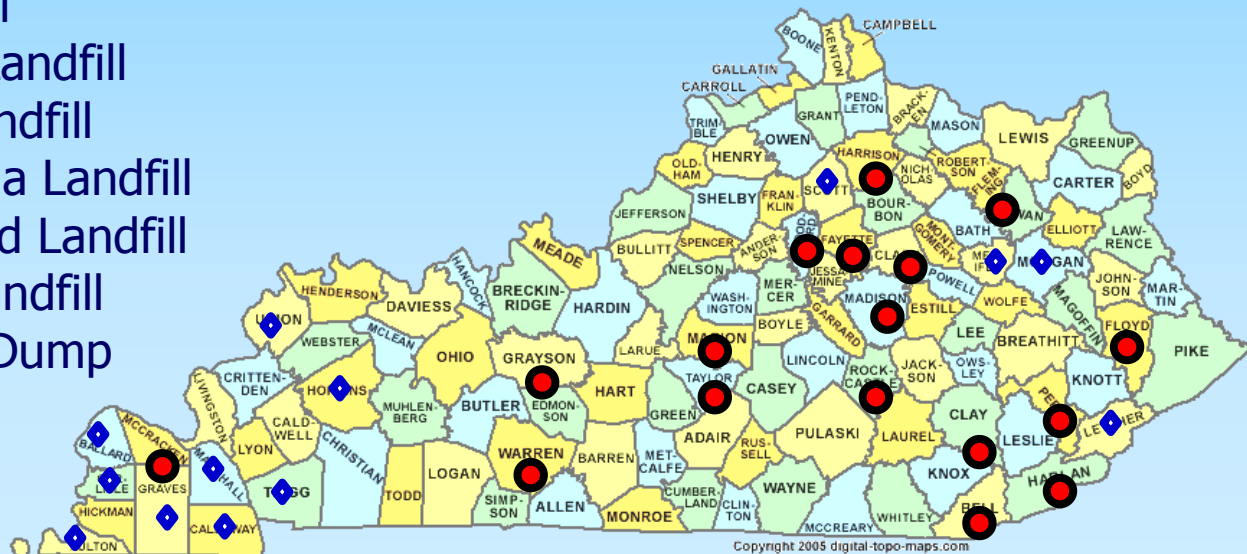
Historic Landfill Summary

- 19 landfills closed by construction ●

- ✓ Bell County – Happy Hollow Landfill
- ✓ Clark – Winchester Municipal Utilities
- ✓ Clay – City of Manchester Landfill
- ✓ Fayette – Raven Run/Jack's Creek Pike Landfill
- ✓ Fleming – Wayne Hurst Landfill
- ✓ Floyd – Floyd County Landfill
- ✓ Grayson – Millwood Landfill
- ✓ Grayson – Old Leitchfield Landfill
- ✓ Harlan – Harlan County Landfill
- ✓ Harrison – City of Cynthiana Landfill
- ✓ Madison – City of Richmond Landfill
- ✓ Marion – Marion County Landfill
- ✓ McCracken – Noel McElya Dump

- ✓ Perry – Perry County Landfill
- ✓ Rockcastle – Multi-County Services
- ✓ Taylor – City of Campbellsville
- ✓ Warren – Glen Lily
- ✓ Warren – Old Louisville Road
- ✓ Woodford – Grassy Springs

25 landfills closed with No Further Action ◆



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Raven Run Nature Sanctuary / Jack's Creek Pike Landfill

- 734-acre nature sanctuary in Fayette County
- 32,000 visitors per year
- 11 acres of landfill
- Stopped accepting waste in 1971
- Waste was used to fill ravine
- Four oily waste pits
- Leachate and waste entering creek leading to Kentucky River
- Exposure to hikers

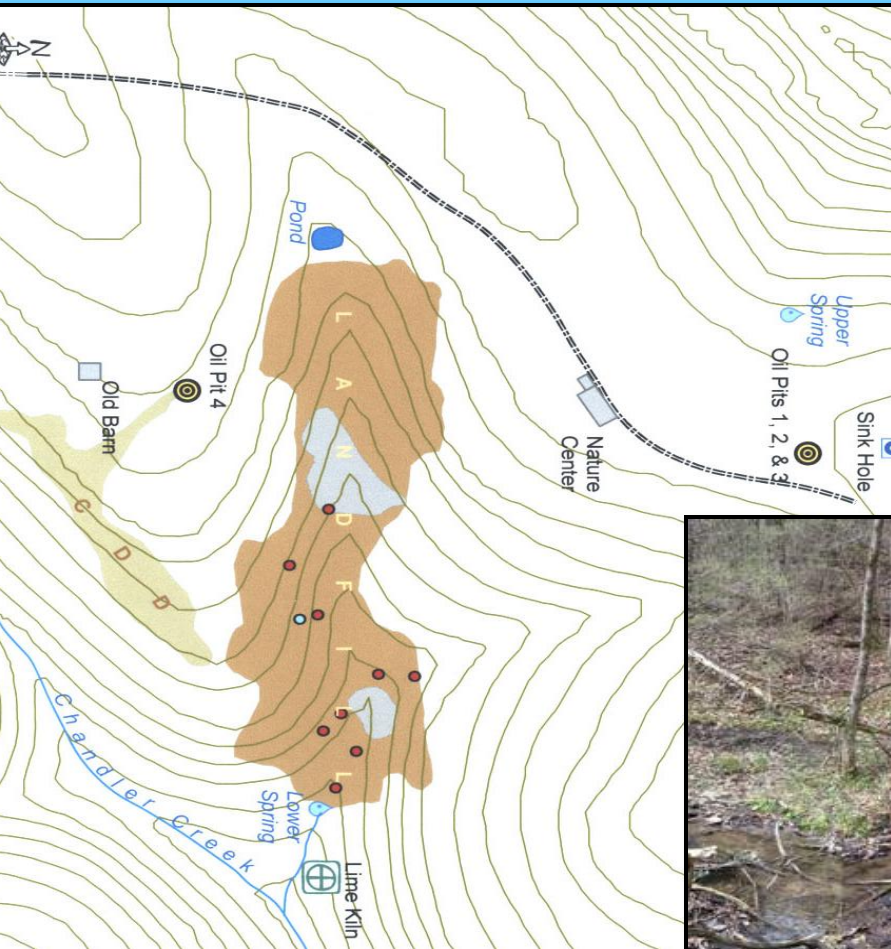


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Raven Run

Looking upstream



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Raven Run

Relocate waste



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Raven Run

Cap – before and after

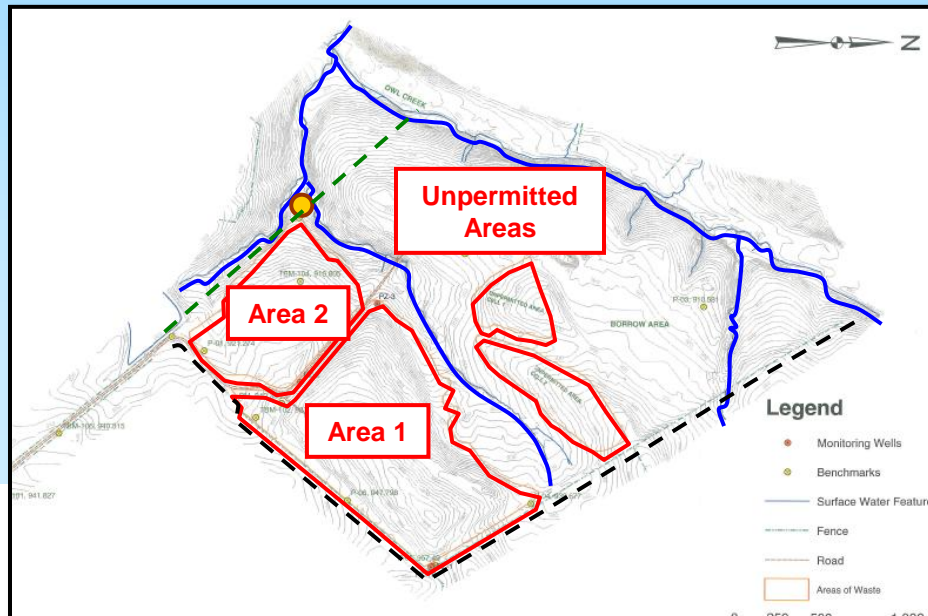


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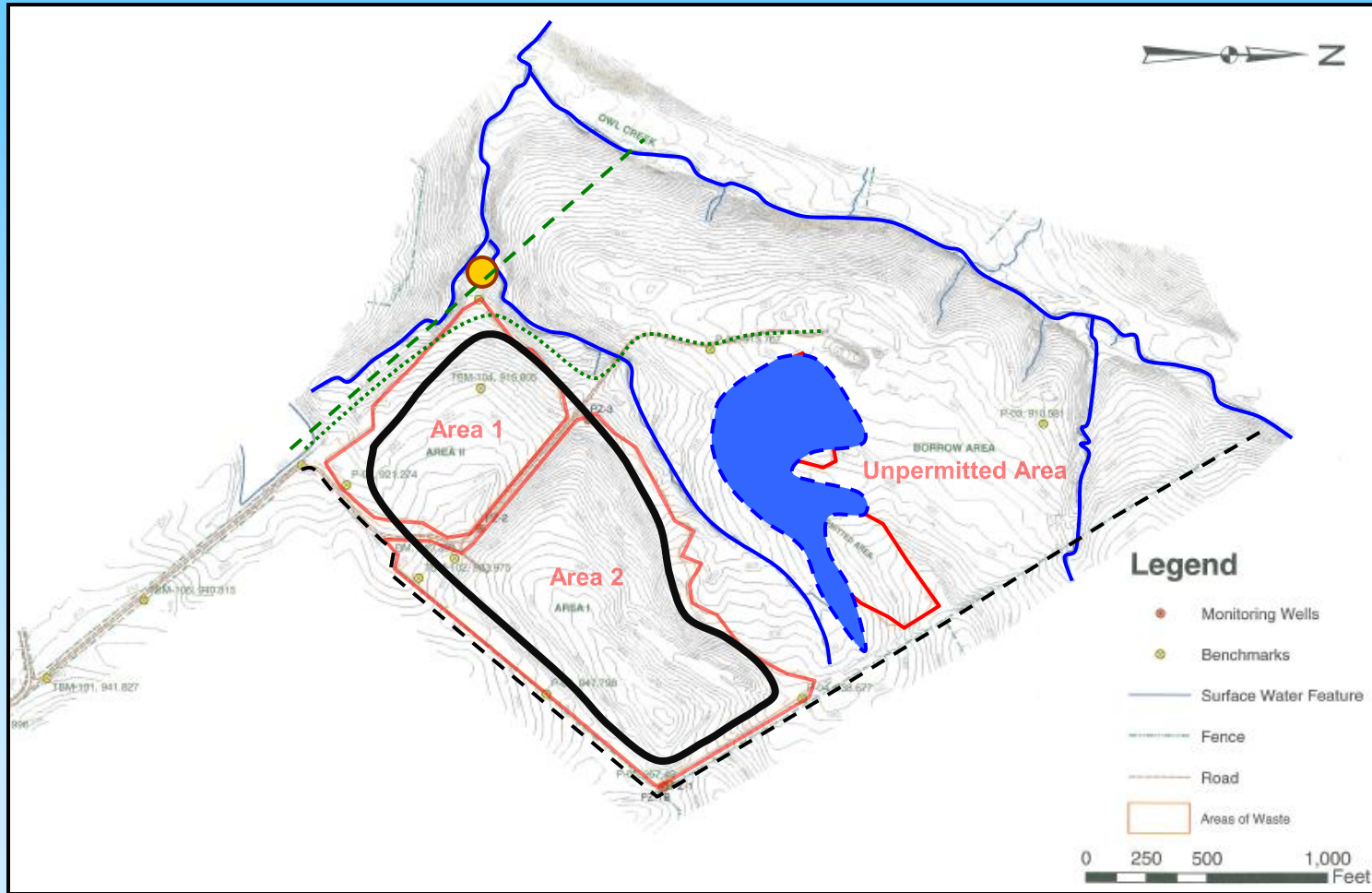
City of Campbellsville

- Waste placed in unpermitted areas
- Corps of Engineers protected wetlands area
- Leachate entering tributary of Owl Creek
- Methane gas burnout areas
- Insufficient borrow material for closure



City of Campbellsville

Closure plan



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City of Campbellsville

Relocating waste



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City of Campbellsville

Installing geosynthetic and gas vents



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City of Campbellsville

10-acre wildlife pond



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Old Clark County Landfill / Winchester Municipal Utilities

- 75 Acres
- Old Clark County Landfill stopped accepting waste in 1980
- WMU stopped accepting waste in 1992
- Generated leachate in excess of 1.8M gallons/year
- Clark County annual leachate management costs ~ \$140,000
- Costs for characterization, design, and construction ~ \$1.4 Million
- Clark County projected annual savings ~ \$130,000



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Old Clark County Landfill/ Winchester Municipal Utilities

Constructed Wetland for On-Site Leachate Treatment



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City of Richmond Landfill

- 200 Acres
- Stopped accepting waste in 1992
- Leachate generation exceeded 4M gallons/year
- City of Richmond annual leachate management costs ~ \$200,000
- Costs for design and construction of Pump Station and Force Main ~ \$1.9 Million
- City of Richmond projected annual savings ~\$150,000



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City of Richmond Landfill

Force Main Installation



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Closures by NFA

Bowling Green Inert / Letcher County Landfill



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Ongoing or On the Bubble

- Jessamine County – Billy Glover Landfill
 - Consolidating waste and placing cap
- Shelby County – Waddy Landfill
 - Repairing cap
- Butler County – City of Bowling Green Landfill
 - Developing closure plans
- Montgomery County - Mt. Sterling Landfill
 - Conducting additional site assessment
- Trigg County Landfill
 - Developing closure plans
- Carter County - FIVCO
 - Developing closure plans
- Mercer County Landfill
 - Developing closure plans
- Johnson County Landfill
 - Developing closure plans



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Working Together

- PRIDE funds off-set up front costs to close abandoned landfills
- Counties assume maintenance
 - Maintain cap and repair erosion
 - Do not excavate, plant trees, or place structures on cap
 - Mow two times per year
 - Remove sediment from ponds and ditches
 - Repair areas with leachate outbreaks
 - Repair areas with settlement
 - Maintain fence or natural barriers
 - Maintain ponds, collection systems, treatment systems, etc.
 - Comply with KPDES or other permits



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Questions?

“In 200 years this job won’t matter.”

FALSE

We are making a difference!



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